SECTION C Descriptions and Specifications

C.1 OBJECTIVE

Provide Navy oriented engineering and analytical services in support of a broad spectrum of research, development, testing, and evaluation projects dealing with materials technology, and other technologies and related disciplines used in the development of Navy ships, submarines, aircraft, and weapon systems.

C.2 BACKGROUND

The Naval Surface Warfare Center, Carderock Division (NSWCCD) plans and conducts Research and Development (R&D) in science, technology, and engineering to meet Navy Mission Area Strategies; serves as the primary Navy materials R&D facility for development of materials technology and other technologies for ships, submarines, and surface craft; serves as Navy/DoD major reference for knowledge of materials application and technology; and provides direct support to the Fleet in solution of operating problems related to materials. The primary focus of R&D efforts are to develop and improve seaborne technologies to enhance the design, construction, and operation of Navy ships, craft, submarines, and underwater vehicles, and to reduce associated costs; and to meet the CNO goals for environmentally sound ships and Fleet support activities for the 21st century, which will be able to affordably comply with all current and anticipated state, federal, and international environmental regulations and enable unconstrained access to all navigable waters.

C.3 SCOPE OF WORK

The Contractor shall provide services, materials, facilities, and personnel to perform Task Orders within the scope of this contract. The Contractor's efforts shall be restricted to providing information and formatting of government furnished information (GFI); and services in support of fiscal, planning, and technical management responsibility. Task Orders shall cover the programs described in the paragraph C.3.1, through tasks described in paragraphs C.3.2 through C.3.4 in support of the terms of the contract.

C.3.1 Programs To Be Supported The NSWC, Carderock Division programs to be supported are as follows:

C.3.1.1 Surface Ship/Craft Technology

C.3.1.2 Submarine Technology

C.3.1.3 Navy/DoD platform/weapon/hardware development programs (e.g., DDG-51, CG-47, SSN-21**,** VIRGINIA, TOSA, CVNX, DDX, etc.)

C.3.1.4 Structural/Machinery Materials Technology

C.3.1.5 Generic/Functional Materials Technology

C.3.1.6 Metals and Alloys

C.3.1.7 Welding and Joining Technology

C.3.1.8 Fracture Control Technology

C.3.1.9 Composite and Nonmetallic Materials Technology

C.3.1.10 Advanced Fabrication Technologies

C.3.1.11 Advanced Propulsor Technology

C.3.1.12 Fire Resistant Materials Technology

C.3.1.13 Signature Control Technology

C.3.1.14 Corrosion Control and Coatings Technology

C.3.1.15 Environmental Protection/Quality Programs

C.3.1.16 Shipboard Pollution Abatement Systems

C.3.2 Tasks for Review and Analysis of R&D Efforts in support of programs identified in paragraph C.3.1 to be performed are:

C.3.2.1 Prepare and submit recommendations for revision and update of planning documents in support of a program identified in paragraph C.3.1.

C.3.2.2 Provide input to technical/program plans for new and proposed projects for a program identified in paragraph C.3.1.

C.3.2.3 Provide required communication and summary information packages for program reviews and for the efficient transfer of new developments to advanced development or fleet activities. The packages shall be prepared in the format provided by NSWCCD, or based on information provided in the Contract Data Requirements List (CDRL's).

C.3.2.4 Prepare specialized technical assessments, program overview reports, and technical manuals for program areas listed in paragraph C.3.1.

C.3.2.5 Assist Navy representatives in the preparation of data packages required for the Defense Technology Area Plans (DTAP) and Technology Area Review and Assessments (TARA).

C.3.2.6 For a program identified in paragraph C.3.1, review technical progress of ongoing tasks and tasks proposed for future technology plans and assist in the preparation of the future plans.

C.3.2.7 Prepare draft presentation material and background handout information for a R&D program identified in paragraph C.3.1 review in the format provided by NSWCCD, or based on information provided in the Contract Data Requirements List (CDRL's).

C.3.3 Tasks for Expert Engineering, Scientific Consultation, and Technical Conference Support in support of programs identified in paragraph C. 3. 1 to be performed are:

C.3.3.1 Prepare draft Navy user manual for a shipboard auxiliary/propulsion system developed under a program identified in C.3.1. Manual shall be (1) based on GFI to be supplied by NSWCCD personnel, (2) in standard Navy format for user manuals, and (3) shall include all required text and drafting of figures.

C.3.3.2 Assist NSWCCD in determining the characteristics of waste discharge from ships in relation to the discharge requirements of various coastal states by: (1) researching the appropriate state regulations to determine the discharge limits and the analytical methods which are used to measure these concentrations; (2) incorporating updated information and data into a program plan and characterization report; and (3) evaluating advanced pollution abatement technology in relation to EPA water quality standards and assess the capability of advanced technology to meet these standards.

C.3.3.3 Develop and/or update and/or maintain a configuration tracking system that assists the Navy during the manufacture/fabrication of a ship/submarine system.

C.3.3.4 Analyze test data and provide analysis in support of a program identified in paragraph C.3.1 with Contractor recommendations, conclusions, etc., where the Contractor's expertise will enhance the quality of research.

C.3.3.5 Conduct the necessary regulation and technology projection and scientific analysis for oily wastewater, nonoily wastewater, ballast water, and other waste streams to insure that solutions developed by the Navy are congruent with current and future industrial capabilities and projected regulatory requirements.

C.3.3.6 Review and edit NSWCCD research and development (technical) reports and papers supporting a program identified in paragraph C.3.1 and make appropriate critical comments and recommendations.

C.3.3.7 Review available technologies and/or systems that could enhance the performance and/or survivability or reduce the cost of Navy ships/submarines. Recommend those technologies or systems that are most likely to be of benefit to the Navy.

C.3.3.8 Evaluate/compare available materials (e.g., metals, ceramics, composites, and coatings) and machinery and structural fabrication methods and recommend candidate materials for naval ship applications in support of programs identified in paragraph C.3.1.

C.3.3.9 Prepare and/or review fire criteria and requirements for lightweight composite structures aboard ships.

C.3.3.10 Review draft Specification(s) in support of a program identified in paragraphs C.3.1 and provide change recommendations. Specifications shall be based on inputs to be provided by NSWCCD personnel.

C.3.3.11 Based on technical information supplied by NSWCCD and literature research, prepare a draft of the history of a specific R&D technology development for a program identified in paragraph C.3.1.

C.3.3.12 Assess benefits and disadvantages of advanced technologies, materials, and processes and support processes for insertion of those technologies that could improve the service environment on Navy ships/submarines. Provide expert technical consultation to evaluate materials and/or

processes used, planned, or being considered for use aboard or in the fabrication of Navy ships/submarines. Assist in determining the cause of defects detected during the fabrication of Navy vehicles , or while these vehiles are in service.

C.3.3.13 Assist NSWCCD personnel in an effort to control and manage hazardous materials and hazardous waste sources. Data to be collected shall be: the Standard PMS Identification Number; a noun description; military or Federal specification; unit of issue; the CAGE designation for each manufacturer supplying a product purchased with the National Stock Number; individual compositions including percentages of ingredients; CAS number and RTECS reference number for each ingredient; the SARA Title III reference, if applicable; and the corresponding Material Safety Data Sheet code numbers.

C.3.3.14 Provide planning and logistics support including facilities arrangements; program development; handout materials development and preparation; announcement mailings; on-site registration support; Minutes recording; and preparation and distribution of a proceedings document for a workshop or conference to be held in support of a program identified in paragraph C.3.1.

C.3.4 Tasks for Program Planning, Management, Administration, and Reporting Assistance (e.g., development, provision, and maintenance methodologies and techniques to assist Navy personnel in program planning, management, administration, and reporting) in support of programs identified in paragraph C.3.1 to be performed are:

C.3.4.1 Prepare a draft for NSWCCD review of the Navy Tech Base (S&T) Technology Plan based on input/data provided by NSWCCD in support of a program identified in paragraph C.3.1. This shall be an approximately 250-page document which summarizes past development efforts and recommends future R&D efforts. The Technology Plan is to include executive summary, problem statements, background, management plan, objectives, status, accomplishments, plans, and milestones in the format prescribed by current Navy instructions and IAW the terms of the contract.

C.3.4.2 Develop roadmaps and thrust data packages for a program identified in paragraph C.3.1 which are required for a Navy projects/strategic planning. Roadmaps and thrust data packages shall (1) be based on GFI to be supplied by NSWCCD personnel, (2) be in a format provided by NSWCCD, and (3) include all required text and drafting of figures.

C.3.4.3 Develop and provide statistical analysis, financial analysis, and reporting methods in support of a program identified in paragraph C.3.1 for routine (i.e., annual, triennial, etc.) reports and reviews.

C.3.4.4 Develop, provide, and maintain project information on milestones, schedule, technical status, objective, background, planned transition to the Fleet, payoff to the Navy, related R&D, and reports/conferences/patents to support the management of technical R&D projects for a program identified in paragraph C.3.1.

C.4 TECHNICAL DATA REQUIREMENTS IN SUPPORT OF PARAGRAPH C.3.1.

Technical Data Requirements will be specified in each Task Order. The type of data to be generated will include: technical reports, assessments, analyses, manuals, historical summaries, program overviews, presentation materials/handouts, and brochures/pamphlets; draft specifications, technology plans, and thrust data packages; and documentation of requirements, analysis studies, production/work support activities evaluations, and documentation.

In addition to the specific Technical Data Requirements for each Task order, the following reports will be required:

C.4.1 Bimonthly Progress Reports (Task Orders) / (CDRL #A001). The Contractor shall provide two (2) copies of an informal, letter-type progress report bimonthly for each active Task Order. These reports shall briefly describe the work performed during each reporting period, together with the results thereof, and the current technical status of the Task Order. These reports shall be submitted at the same time as the bimonthly management reports.

C.4.2 Bimonthly Management Reports (Contract) / (CDRL #A002). The Contractor shall provide two (2) copies of bimonthly management/financial status reports for activities conducted under this contract. These reports shall indicate the services provided and the costs accrued by the Contractor for each two month period and cumulatively. These bimonthly reports shall be submitted following the even numbered months of the year (i.e., following February, April, June, etc.). A final summary report is due at completion of the contract.

C.4.3 Final Report (Task Orders) / (CDRL #A003). The Contractor shall furnish three (3) copies of a final report upon completion of each Task Order. This report shall cover, in complete and comprehensive detail, all of the work accomplished during the performance of the individual Task Order, and shall contain the information to be specified by the Ordering Officer upon initiation of each Task Order.

Note: The Contractor shall be responsible for the acquisition of all data essential to satisfactory performance hereunder. NSWCCD will furnish the Contractor, upon request, any available relevant data germane to each Task Order.

C.5 TECHNICAL CONFERENCES

Contractor personnel shall be available for information meetings with technical personnel at the NSWCCD to discuss the direction, progress, and/or problems which occur during each Task Order issued.

C.6 SUPPORT MATERIALS AND SERVICES

The support materials and services to be furnished under this contract shall be only those kinds and quantities of materials and services specified in specific Task Orders issued. Individual items to be purchased for a value in excess of $1,000 must be approved by the government by Contractor inclusion in Task Order estimates or by separate letter request, if purchase is deemed necessary after Task Order initiation. The support shall include, but not be limited to, the following:

C.6.1 Travel

C.6.2 Materials

C.6.2.1 Printing and Printing Materials

C.6.2.2 Specified Printed Materials

C.6.2.3 Specified Graphics Services and Products

C.6.2.4 Meeting/Conference Materials and Equipment

C.7 SECURITY REQUIREMENTS

During the performance of this contract, the Contractor shall be required to have access to, and may be required to receive, generate, and store, information classified to the level of SECRET. Therefore, Contractor facilities used in support of this contract must be granted SECRET facility clearances and have the capability to store material classified up to and including SECRET. In addition, Contractor key personnel must possess SECRET personnel security clearances granted by the Defense Industrial Security Clearance Office (DISCO), Columbus, Ohio.